

Does the size of the spine needle (25 vs. 20 gauge) have any influence on pain experience during mid-trimester amniocentesis – a preliminary report.

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Abstract objective

- Amniocentesis (amniopunction, amniotic fluid test or AFT) a medical procedure used in prenatal diagnosis.
- It involves taking a sample of amniotic fluid in order to examine fetal cells and the fetal DNA.
- We investigate the maternal perception of pain, after amniocentesis, taking into account the size of amniopunction spinal needle (25 vs 20), Body Mass Index, age of pregnant patients and status post cesarean section.

To assess pain perception we used Numeric Rating Scale of pain; visual analog scale (VAS).

Abstract methods

- We performed thirty tree amniopunctions. Twenty two patients had an amniopunction using 20 gauge needle, while in eleven cases we used 25 gauge spine needle.
- In 63% cases the amniopunction was performed because of fetal structural abnormalities, in 39% positive antenatal screening tests (NT, NB, TR), in 24% abnormal serum (bHCG, PAPP) for trisomy 21, 13, 18 and in 9% cases a history of parent balanced chromosomal translocation.
- Amniopunction was performed under continuous visual control with real-time ultrasonic guidance, using ultrasound Voluson E6 GE.
- Each time 25 or 20 gauge spinal needle was inserted through the maternal abdominal and uterine walls into the pocket of amniotic fluid within the amniotic sac. Approximately 1 ml per week of gestation was aspirated.
- The visual analog scale (VAS) was used to quantify the patient's pain level immediately after sampling. The assessment of pain. 0 - no pain - 10 - excruciating pain.

Results

- The average time of amniocentesis was 17 ± 4 weeks of pregnancy.
- We found that some patients described the procedure as not painful or bearable.
- The average pain level was 5.
- Using two methods of analysis Spearman correlation and U Mann-Whitney test, there were no statistical differences between the pain perception and the size of the needle (20 vs. 25 gauge ($p=0,96$), the age of the patients ($p=0,96$) as well as BMI ($p=0,8$) and status post cesarean section ($p=0,24$).

Conclusions

- There were no significant differences in the intensity of pain between the groups during amniocentesis.
- More comfortable and faster for the operator performing amniopunction was to use spine needle with a larger diameter. Sampling amniotic fluid by a smaller diameter spine needle (25 gauge) needs more strength and is more time consuming.
- However further studies and a larger group of patients seem necessary for the evaluation of a treatment protocol of this procedure.

